

Activity #4: Activate Your Knowledge – The Science Board

Section 5: Science as a Process

Use the following information to help you plan and organize your science investigation using the science board. The examples given are based on a sink or float science investigation which could be done in conjunction with an Ocean theme.

Purpose:

- Describe what children will try to find out in this lesson. What science process do you want to teach? Why is teaching this lesson important to preschoolers?
- For example:
 - Children will learn to develop and test predictions that are based on observations of whether materials sink or float.

Pre-Research Questions:

- Develop three pre-research questions (hypothesis) for your science lesson.
- For example:
 - Does the **size** of an object help us predict if it will float or sink?
 - Does the **shape** of an object help us predict if it will float or sink?
 - Does the **weight** of an object help us predict if it will float or sink?

Procedures:

- What strategies will you use to test your pre-research questions (hypothesis)?
- For example:
 - Jump right in with testing which objects float or sink; then record your observations.
 - Sort the objects to see if properties (size, weight, shape) are shared by items in each group.
 - Identify properties present in both the sink group and float group: color, texture, odor.
 - Test predictions using the same objects; then introduce a new object and try to predict if it will sink or float.

Vocabulary:

- List the vocabulary words you would teach in this science lesson. List words related to the process of science separately.
- *For example:*

- sink, float, size, shape, weight, heavy, light, big, small, wide, flat, texture, rough, smooth, slippery, sticky, solid, hollow. Process vocabulary: observe, record, sort, predict, test, measure, weigh

Setting and Group Size:

- In what setting would you teach this lesson? What would be your group size for this lesson?
- For example:
 - Indoors, near the sink
 - Small group; no more than five children

Materials:

- List the materials needed for the science activity.
- *For example:*
 - Large basin of water
 - Balance beam to test weight
 - Measure to test size
 - Paper and crayons to outline shapes, including holes/gaps interior to each shape
 - Chart paper
 - A variety of objects to include: feather, rubber band, paper clip, wooden spoon, metal spoon, string, wire, tape, chewing gum, an egg, a stone

Conclusion

- For discussion purposes, develop an educated guess as to what conclusions children may draw from your lesson.
- For example:
 - Children may conclude that some heavy objects float while some light objects sink.
 - An object's shape (wide and flat) can help to predict whether it will sink or float.
 - If objects are very similar in size and shape, weight can determine whether the object will sink or float.
 - Some properties (texture, color, and odor) don't help us predict if an object will sink or float.